

EPA Response to Hurricane Harvey

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Region 6

HARVEY'S HISTORY

AUGUST 2017



STALLS OVER TEXAS
ON AUG. 26

HARVEY'S FINAL LANDFALL
NEAR CAMERON, LA
ON AUG. 30

LANDFALL AS CAT. 4
ON TEXAS COAST
AUG. 25

STRENGTHENS INTO A
HURRICANE AUG. 24

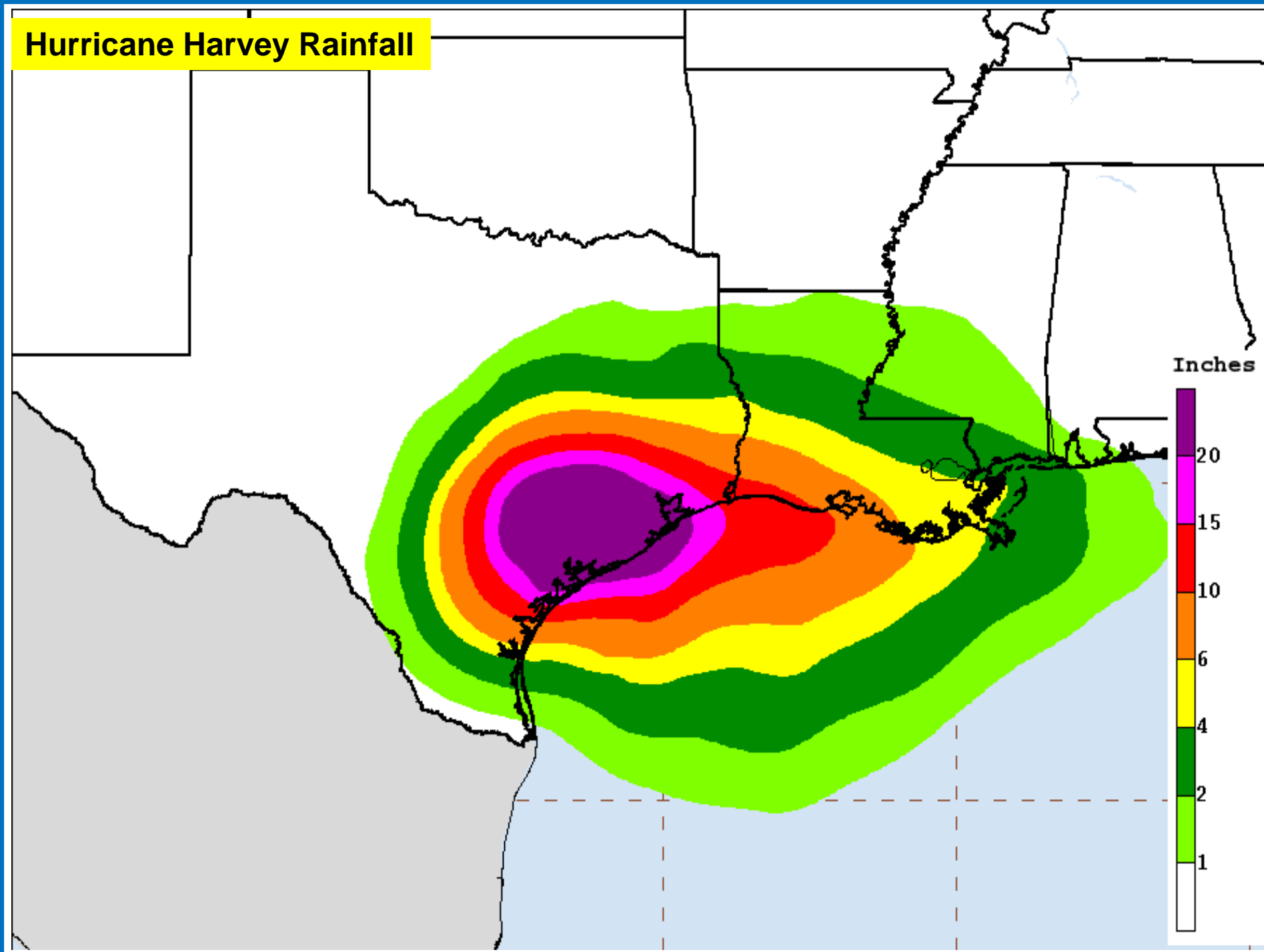
DEGENERATED INTO A
TROPICAL WAVE AUG. 19

INVEST 91L
DESIGNATED AUG. 13

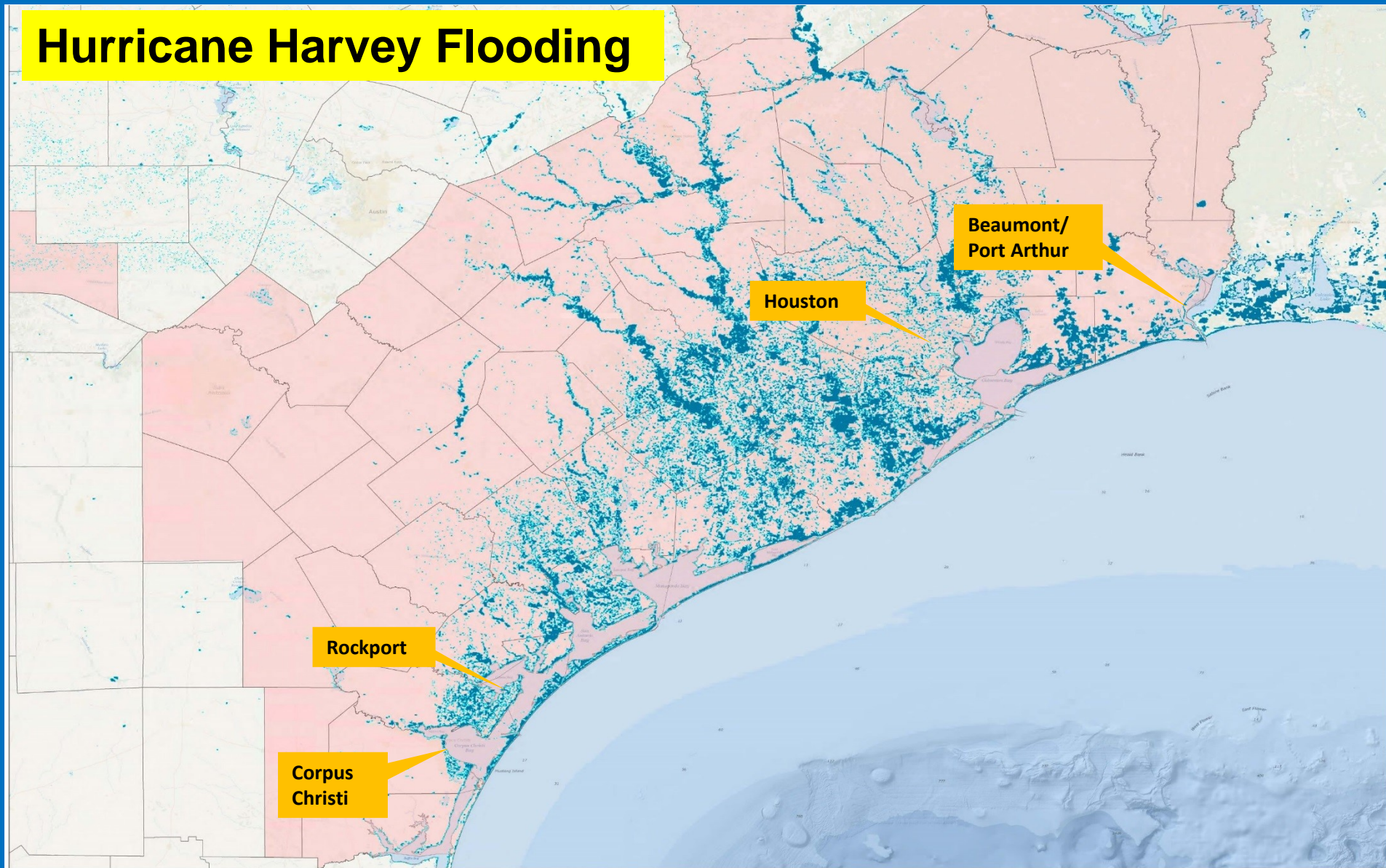
REFORMS INTO
TROPICAL STORM
AUG. 23

HARVEY NAMED
AUG. 17

Hurricane Harvey Rainfall



Hurricane Harvey Flooding



Legend

- Inundation Boundary Extent
- State Declared Counties

US EPA Region 6 Hurricane Harvey Response Flood Area Map in Hurricane Harvey Declared Areas



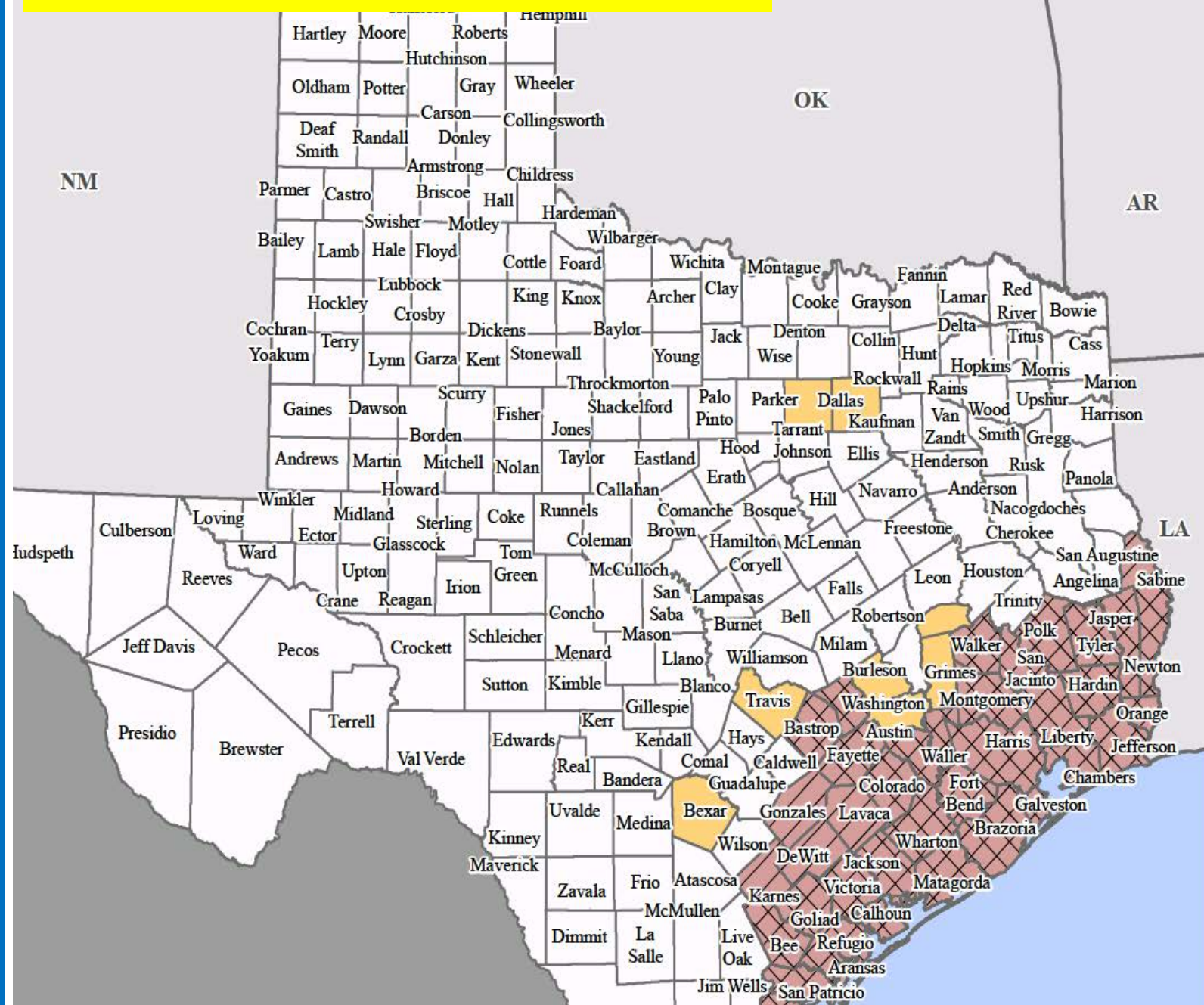
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Presidential Declared Counties








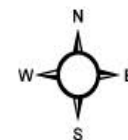
Data Layer/Map Descri

The types of assistance that have been designated for selected areas in the State of Texas

All designated areas in the State of Texas are eligible to apply for assistance under the FEMA Mitigation Grant Program.

Designated Counties

-  No Designation
 Public Assistance
 Public Assistance
 B)
 Individual Assist
 Public Assistance
 A and B)
 Individual Assist
 Public Assistance
 A - G)





RESPONSE OBJECTIVES

- Maximize protection of public, health, and safety.
- Identify and evaluate affected drinking water and wastewater systems
- Identify and address orphaned containers or discharges from vessels and/or facilities
- Identify and address pollution targets.
- Identify and assess Department of Homeland Security critical infrastructure; chemical; and, refining facilities
- Establish and maintain a common operating picture.



RESPONSE OBJECTIVES

- Identify and maximize protection of environmentally sensitive areas and threatened species.
- Manage a coordinated interagency response effort through the Unified Command.
- Establish an Incident Management Team
- Inform the public, stakeholders, and the media of response activities.
- Adhere to appropriate financial accounting practices
- Deploy unique EPA assets to support the unified command response

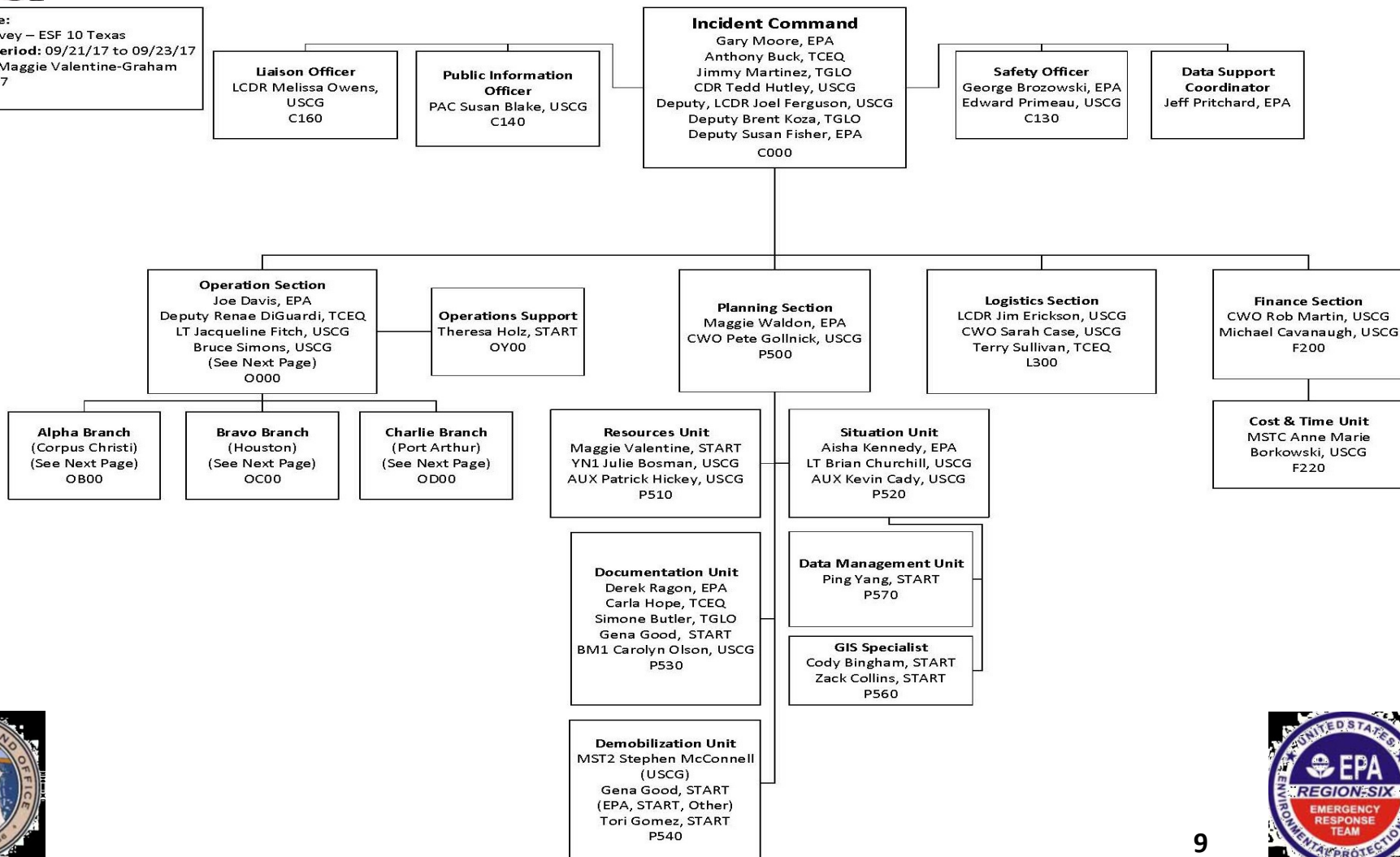
UNIFIED COMMAND



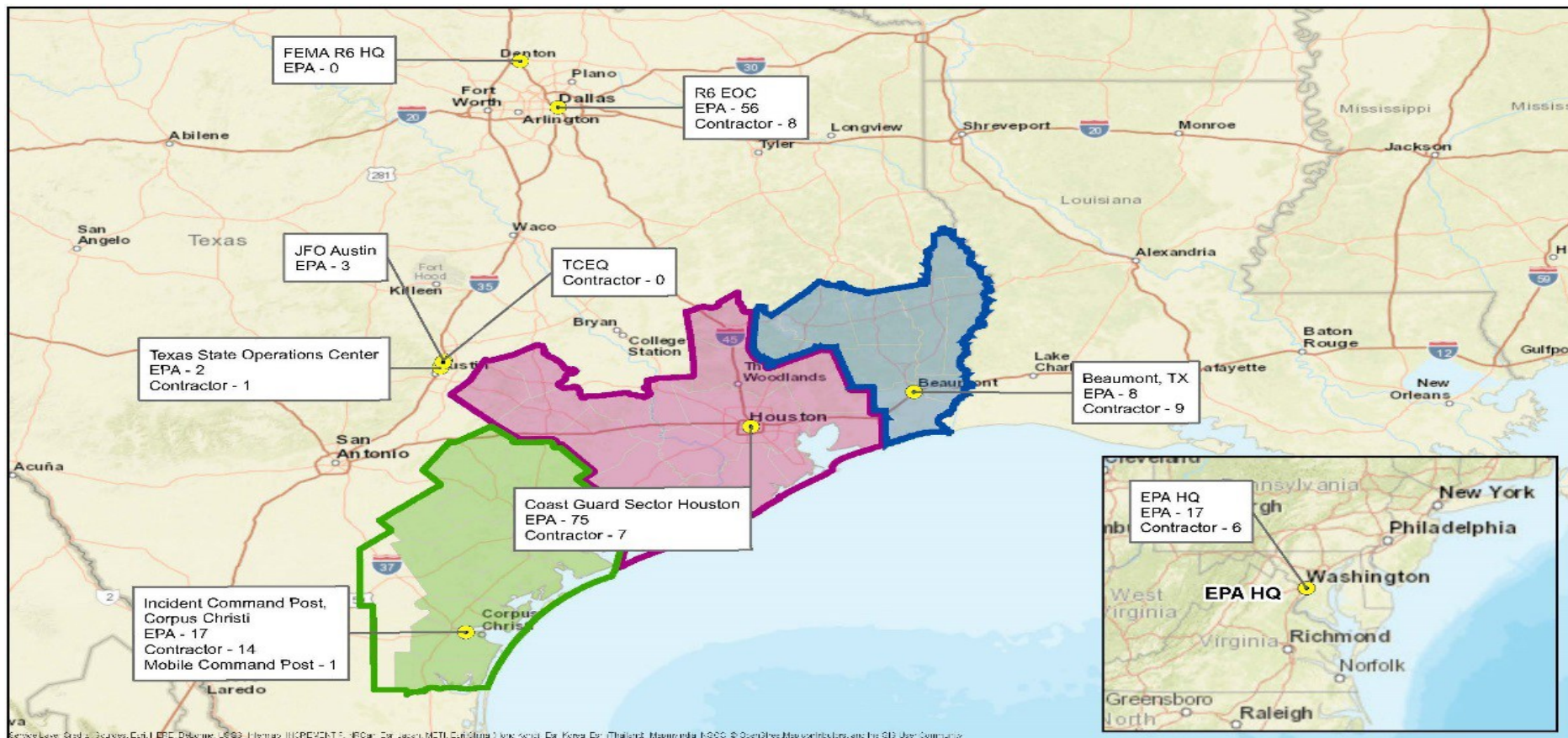
Unified Command Organization Chart



Incident Name:
Hurricane Harvey – ESF 10 Texas
Operational Period: 09/21/17 to 09/23/17
Prepared by: Maggie Valentine-Graham
Date: 09/20/17
Time: 1800



EPA Resources



Legend

● Resource Location

Branch Federally Declared Counties

Alpha	Alpha
Bravo	Bravo
Charlie	Charlie

US EPA Region 6 EPA Resources Locations Map Hurricane Harvey Response



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Unified Command Mobile Command Post

Command & General Staff Meeting



ASPECT Activities



- DHS and DOE requested monitoring
- Pipelines
- Refineries
- Releases at chemical and oil facilities
- Releases and orphan containers



Arkema Chemical Facility, Crosby, TX





Chemical Compounds	Short-term AMCV (ppm)
1,1-dichloroethane	1.0
1-butene	27
acetone	11
dichlorodifluoromethane	10
ethyl acetate	4
ethylene	500
isobutane	33
methyl ethyl ketone	20
methylene chloride	3.4
n-butyl acetate	7.4
n-propyl acetate	2
propylene	Simple Asphyxiant
vinyl chloride	27

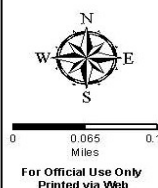
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— No Readings Above Benchmarks

What's an AMCV?

AMCV is a collective term used to describe chemical-specific air concentrations used to evaluate air monitoring data that are set to protect human health and welfare. Short-term AMCVs are based on data concerning acute health effects. AMCVs may contain health-based Reference Values (RVs) and health- and welfare-based ESL values. AMCVs are screening levels used in TCEQ's evaluation of ambient air monitoring data to assess the potential for measured concentrations of specific chemicals to cause health or welfare effects. Health-based AMCVs are safe levels at which exposure is unlikely to result in adverse health effects. ESLs are screening levels used in the TCEQ's air permitting process to establish maximum emission rates that are written into enforceable air permits. Health-based ESLs are set 70 percent lower than the safe level, or AMCV. This additional buffer allows TCEQ to take into account exposure to chemicals from multiple sources in air permit reviews.

USA EPA REGION 6 Flight 13 ASPECT



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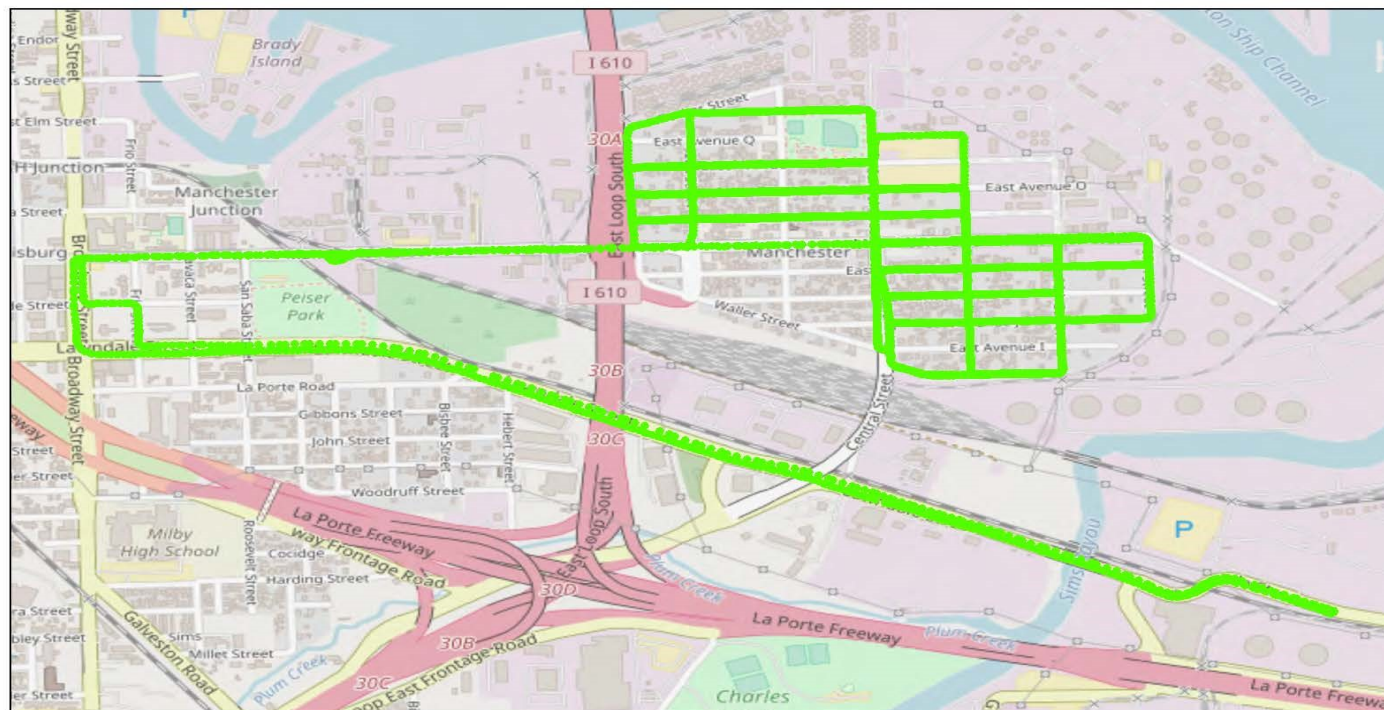
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TAGA Activities



- Refinery monitoring
- Sensitive community monitoring
- Chemical manufacturing corridor monitoring



Substance	CAS #	Short-term AMCV Health (ppb)
1,1-dichloroethylene	75-35-4	180
benzene	71-43-2	180
m/p-xylene	179601-23-1	1700
o-xylene	95-47-6	1700
tetrachloroethylene	127-18-4	1000
toluene	108-88-3	4000
trichloroethylene	79-01-6	100

Legend

- No Readings Above Benchmarks

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USA EPA REGION 6 TAGA Runs on 20170905



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Miles

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TAGA Product

PHILIS Activities



- On- Site Release assessment of analytical services
- Staging area sampling services
- Superfund site assessment analytical services

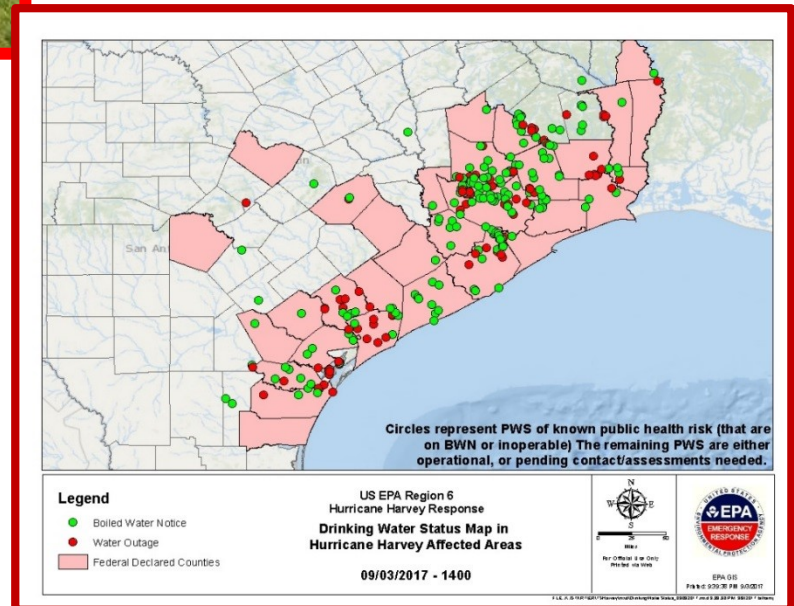
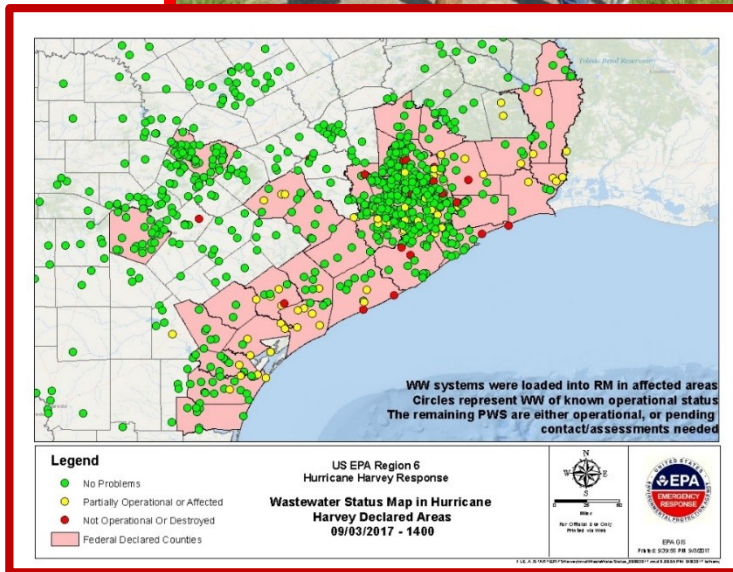




Drinking Water / Waste Water Assessments



Water Assessment Team –Houston Area Branch



Orphaned Container Recovery

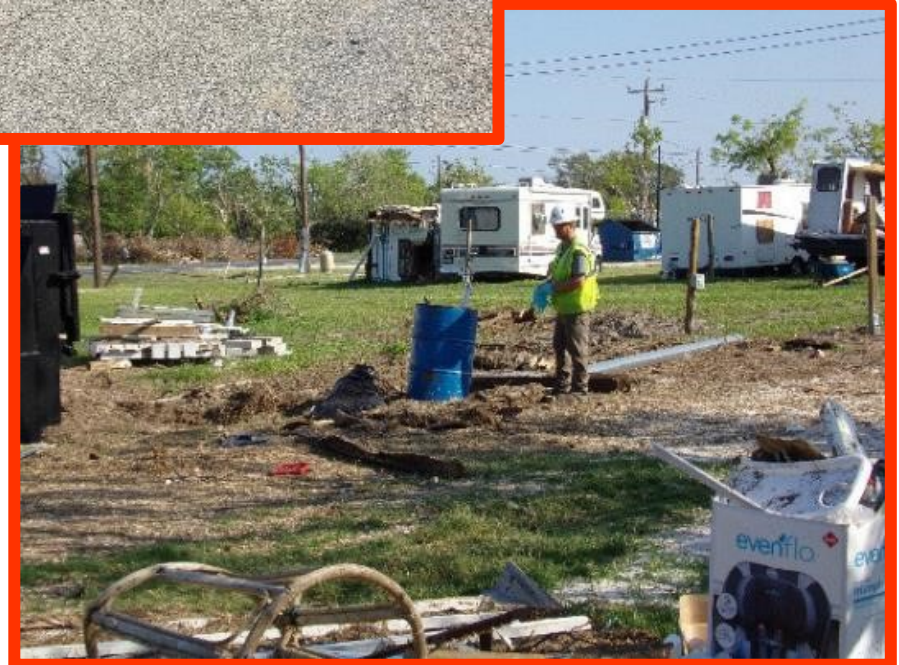
Port Arthur Orphan
Container Recovery



Corpus Christi Orphan
Container Recovery –
Port Aransas



Corpus Christi – EPA OSCs
Sampling Drums at Pad in Level B



Superfund Sites

San Jacinto Pits:
Completed repairs on
the western portion of
the southern berm.



Responsible Party contractors began manual probing
of underwater cap with oversight by EPA Dive Team

Support to TCEQ / Staging Area Observers



Community Liaisons



Accomplishments



- 648 Hazard Evaluations completed and closed
- 256 spills/discharge investigation completed
- 1,055 orphan containers recovered
- 625 drinking water assessments completed
- 441 waste water assessments completed
- Daily aerial over-flights for air monitoring
- Fuel waivers and No Action Assurance letters issued to support response/recovery activities

